



**STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES**

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Lab Services - Jackson Regional Lab
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TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
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Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003205
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using good laboratory practices and in accordance with federal or state approved methodologies.

Analytical Supervisor

Lab-Sample Number: K00003205001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/10/2009 11:20
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.32 pH Units
Chlorine, residual:
Conductivity: 36 uMHO
Temperature: 7.82
Dissolved Oxygen: 14.41 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	380	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	300	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	21	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.58J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	0.55J	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	61	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	4.5J	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/10/2009 11:20
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.32 pH Units
Chlorine, residual:
Conductivity: 36 uMHO
Temperature: 7.82
Dissolved Oxygen: 14.41 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00003205002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1
Date/Time Collected: 12/10/2009 09:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.04
Dissolved Oxygen: 11.68 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	410	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	320	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	23	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.58J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	0.70J	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	59	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.064J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	3.8J	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1
Date/Time Collected: 12/10/2009 09:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.04
Dissolved Oxygen: 11.68 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number:	K00003205003	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.27 pH Units
Sample Description:	Approx 100' downstream from middle dredge pc	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	31 uMHO
Project Site No.:	2A	Temperature:	9.05
Station No.:	Dredge Plume	Dissolved Oxygen:	11.85 mg/L
Date/Time Collected:	12/10/2009 10:01	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/30/2009		
Date/Time Received:	12/10/2009 12:54		
Received By:	Ken Hitchman		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	600	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	490	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	28	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	0.11J	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.91J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	0.52J	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	1.1	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	93	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.060J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	6.0	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205003

Project Name: TVA-Ash Spill

Sample Description: Approx 100' downstream from middle dredge pc

Sampler Project Name: TVA ash spill

Project Site No.: 2A

Station No.: Dredge Plume

Date/Time Collected: 12/10/2009 10:01

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 12/30/2009

Date/Time Received: 12/10/2009 12:54

Received By: Ken Hitchman

Field Determinations

pH: 7.27 pH Units

Chlorine, residual:

Conductivity: 31 uMHO

Temperature: 9.05

Dissolved Oxygen: 11.85 mg/L

Other:

Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00003205004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/10/2009 10:07
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.16 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 11.75 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	530	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	410	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	25	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.80J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	0.92J	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	78	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.041J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	7.9	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/10/2009 10:07
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.16 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 11.75 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003205005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/10/2009 10:13
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 6.97 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 8.99
Dissolved Oxygen: 12.21 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	620	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	550	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	27	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.78J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	0.57J	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	1.0	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	73	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.041J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	5.8	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/10/2009 10:13
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 6.97 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 8.99
Dissolved Oxygen: 12.21 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003205006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/10/2009 10:24
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.08 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 12.31 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	520	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	430	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	25	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.70J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	0.40J	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	0.91J	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	68	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.033J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	4.9J	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/10/2009 10:24
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations

pH: 7.08 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 12.31 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003205007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/10/2009 10:50
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.33 pH Units
Chlorine, residual:
Conductivity: 106 uMHO
Temperature: 9.61
Dissolved Oxygen: 12.60 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	510	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	370	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	1.0J	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	31	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.71J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	0.61J	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	1.0	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	81	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.032J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	4.2J	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/10/2009 10:50
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.33 pH Units
Chlorine, residual:
Conductivity: 106 uMHO
Temperature: 9.61
Dissolved Oxygen: 12.60 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003205008
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/10/2009 10:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.38 pH Units
Chlorine, residual:
Conductivity: 52 uMHO
Temperature: 7.58
Dissolved Oxygen: 13.22 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	1100	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	1600	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	0.80J	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	11	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	68	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	0.39J	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	2.1J	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	1.4	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	5.1	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	2.9	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	110	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	2.8	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	0.22J	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	11	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	6.7	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number: K00003205008
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/10/2009 10:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/30/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations

pH: 7.38 pH Units
Chlorine, residual:
Conductivity: 52 uMHO
Temperature: 7.58
Dissolved Oxygen: 13.22 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number:	K00003205009	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.40 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	175 uMHO
Project Site No.:	6	Temperature:	10.06
Station No.:	CLINC004.5RO	Dissolved Oxygen:	11.34 mg/L
Date/Time Collected:	12/10/2009 10:31	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/30/2009		
Date/Time Received:	12/10/2009 12:54		
Received By:	Ken Hitchman		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/15/2009				M Pattanayek	12/15/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	440	µg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	230	µg/L	6.4	10	M Pattanayek	12/15/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/15/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/15/2009
Barium	33	µg/L	2.5	5	M Pattanayek	12/15/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/15/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/15/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/15/2009
Cobalt	0.72J	µg/L	0.04	1	M Pattanayek	12/15/2009
Copper	0.41J	µg/L	0.38	1	M Pattanayek	12/15/2009
Lead	1.0	µg/L	0.10	1	M Pattanayek	12/15/2009
Manganese	110	µg/L	0.42	1	M Pattanayek	12/15/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	12/15/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/15/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/15/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	12/15/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/15/2009
Zinc	5.1	µg/L	1.9	5	M Pattanayek	12/15/2009

Lab-Sample Number:	K00003205009	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.40 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	175 uMHO
Project Site No.:	6	Temperature:	10.06
Station No.:	CLINC004.5RO	Dissolved Oxygen:	11.34 mg/L
Date/Time Collected:	12/10/2009 10:31	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/30/2009		
Date/Time Received:	12/10/2009 12:54		
Received By:	Ken Hitchman		

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected



**STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
Jackson, TN 38301
731-426-0686

TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003205
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using
good laboratory practices and in accordance with federal or state
approved methodologies.


Analytical Supervisor

Lab-Sample Number: K00003205001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/10/2009 11:20
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.32 pH Units
Chlorine, residual:
Conductivity: 36 uMHO
Temperature: 7.82
Dissolved Oxygen: 14.41 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	14	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	26	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003205002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1
Date/Time Collected: 12/10/2009 09:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.04
Dissolved Oxygen: 11.68 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	9.8	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	35	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003205003	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.27 pH Units
Sample Description:	Approx 100' downstream from middle dredge pc	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	31 uMHO
Project Site No.:	2A	Temperature:	9.05
Station No.:	Dredge Plume	Dissolved Oxygen:	11.85 mg/L
Date/Time Collected:	12/10/2009 10:01	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/20/2009		
Date/Time Received:	12/10/2009 12:54		
Received By:	Ken Hitchman		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	9.6	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.2	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	62	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003205004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/10/2009 10:07
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.16 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 11.75 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	8.8	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	53	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003205005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/10/2009 10:13
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 6.97 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 8.99
Dissolved Oxygen: 12.21 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	10	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	9.6	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	45	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003205006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/10/2009 10:24
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.08 pH Units
Chlorine, residual:
Conductivity: 31 uMHO
Temperature: 9.00
Dissolved Oxygen: 12.31 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	9.9J	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	10	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	45	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003205007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/10/2009 10:50
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.33 pH Units
Chlorine, residual:
Conductivity: 106 uMHO
Temperature: 9.61
Dissolved Oxygen: 12.60 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	55	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	56	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	53	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003205008
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/10/2009 10:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/20/2009
Date/Time Received: 12/10/2009 12:54
Received By: Ken Hitchman

Field Determinations
pH: 7.38 pH Units
Chlorine, residual:
Conductivity: 52 uMHO
Temperature: 7.58
Dissolved Oxygen: 13.22 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	19	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	98	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003205009	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.40 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	175 uMHO
Project Site No.:	6	Temperature:	10.06
Station No.:	CLINC004.5RO	Dissolved Oxygen:	11.34 mg/L
Date/Time Collected:	12/10/2009 10:31	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/20/2009		
Date/Time Received:	12/10/2009 12:54		
Received By:	Ken Hitchman		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	96	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	75	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/11/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	48	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected